Claims

1. A recombinant DNA sequence encoding a human platelet-derived growth factor (PDGF) A-chain polypeptide.

2. The recombinant DNA sequence of claim 1 which encodes a PDGF A-chain polypeptide comprising the amino acid sequence numbered 87 to 193, inclusive, in Figure 1.

3. The recombinant DNA sequence of claim 1 which encodes a PDGF A-chain polypeptide comprising the amino acid sequence numbered 87 to 196, inclusive, in Figure 1 or Figure 2.

4. The recombinant DNA sequence of claim 1 which encodes a PDGF A-chain polypeptide comprising the amino acid sequence numbered 87 to 211, inclusive, in Figure 1.

5. The recombinant DNA sequence of claim 1 which encodes a PDGF A-chain precursor polypeptide comprising the amino acid sequence numbered 1 to 196 in Figure 1 or Figure 2.

6. The recombinant DNA sequence of claim 1 which encodes a PDGF A-chain precursor polypeptide comprising the amino acid sequence numbered 1 to 211 in Figure 1.

7. A recombinant expression vector containing and effective in expressing the DNA sequence of claim 1.

8. A recombinant expression vector containing and effective in expressing the DNA sequence of claim 2.

9. A recombinant expression vector containing and effective in expressing the DNA sequence of claim 3.

10. A recombinant expression vector containing and effective in expressing the DNA sequence of claim 4.

11. A recombinant expression vector containing and effective in expressing the DNA sequence of claim 5.

12. A recombinant expression vector containing and effective in expressing the DNA sequence of claim 6.

13. A recombinant expression vector containing and effective in expressing (a) the DNA sequence of claim 1 and (b) a DNA sequence encoding PDGF B-chain.

14. The recombinant expression vector of claim 7 wherein the DNA sequence is operably linked to control sequences compatible with a yeast host.

15. The recombinant expression vector of claim 14 wherein said control sequences direct secretion of PDGF formed from the PDGF A-chain polypeptide.

16. The recombinant expression vector of claim 7 wherein the DNA sequence is operably linked to control sequences compatible with a mammalian host.

17. Yeast cells transformed with the recombinant expression vector of claim 14.

18. Yeast cells transformed with the recombinant expression vector of claim 15.

19. Mammalian cells transformed with the recombinant expression vector of claim 16.

20. The mammalian cells of claim 19 which are transformed with an expression vector containing and effective in expressing a DNA sequence encoding PDGF B-chain.

21. A method of producing recombinant PDGF comprised of PDGF A-chain polypeptide comprising growing the yeast cells of claim 17.

22. A method of producing recombinant PDGF comprised of PDGF A-chain polypeptide comprising growing the yeast cells of claim 18.

23. A method of producing recombinant PDGF comprised of PDGF A-chain polypeptide comprising growing the mammalian cells of claim 19.

24. A method of producing recombinant PDGF comprised of PDGF A-chain polypeptide and PDGF B-chain comprising growing the mammalian cells of claim 20.

25. Recombinant PDGF comprised of a PDGF A-chain polypeptide comprising the amino acid sequence numbered 87 to 193, inclusive, of Figure 1, or an analog of said sequence that is substantially homologous and functionally equivalent thereto.

26. Recombinant PDGF comprised of a PDGF A-chain polypeptide comprising (a) the amino acid sequence numbered 87 to 196, inclusive, of Figure 1, (b) the amino acid sequence numbered 87 to 196, inclusive, of Figure 2 or (c) an analog of (a) or (b) that is substantially homologous and functionally equivalent thereto.

27. Recombinant PDGF comprised of a PDGF A-chain polypeptide comprising the amino acid sequence numbered 87 to 211, inclusive, of Figure 1, or an analog of said sequence that is substantially homologous and functionally equivalent thereto.

28. Recombinant PDGF comprised of (a) a PDGF A-chain polypeptide comprising the amino acid sequence numbered 87 to 193, inclusive, of Figure 1, or an analog of said sequence that is substantially homologous and functionally equivalent thereto, and (b) a PDGF B-chain.

29. Recombinant PDGF comprised of (a) a PDGF A-chain polypeptide comprising the amino acid sequence numbered 87 to 196, inclusive, of Figure 1 or Figure 2, or an analog of said sequence that is substantially homologous and functionally equivalent thereto, and (b) a PDGF B-chain.